

ATTACHMENT "B"

INFORMATION TO SUPPORT DISCHARGE OF TREATED GROUNDWATER TO LAND

This guidance document outlines the minimum information required by the California Regional Water Quality Control Board, Lahontan Region, prior to considering issuance of a Notice of Applicability for general waste discharge requirements for the discharge of treated ground water to land. In addition to the information outlined in this document, a completed Notice of Intent (Attachment A) and filing fee must also be submitted.

Discharges to land regulated by the general Order include the following:

1. percolation trenches or basins
2. irrigation of landscaping
3. spray disposal
4. evaporation trenches or basins
5. subsurface infiltration
6. other similar discharges

A. Background Information

A basic description of the proposed discharge must be provided to allow staff to determine if a general permit is applicable to the proposed discharge. This information generally includes:

1. Identification of the source of pollutants (source areas), the potential seasonal variations in the concentrations of pollutants and flow rates, and a general description of the proposed treatment and disposal systems.
2. Locations of all recharge areas (e.g. ephemeral stream channels, percolation ponds, subsurface sewage disposal systems, irrigated agriculture, etc.) within one mile of the facility.
3. Identification of all piezometers and all wells, including monitoring, extraction, injections and supply wells, onsite and offsite within one mile of the site or within an area that may potentially be influenced by the discharge.
4. Property boundaries.
5. Buildings, dwellings, and other significant structures.
6. Map(s) of the site which depicts the locations of all surface features identified above, including the process and source areas, the points of discharge and the extraction, treatment and disposal facilities.
7. Documentation of compliance with all necessary local and state permits.

B. Chemical and Physical Wastewater Characteristics

A chemical and physical evaluation of the wastewater is needed to allow staff to assess the need for discharge standards and monitoring, and to evaluate the potential for impacts on

water quality. The specifics of the characterization varies with the type of wastes being discharged. The following are minimum requirements for ground water cleanup discharges:

1. A minimum of one of each of the following analyses of the wastewater:
 - a. Chlorinated volatile hydrocarbons (EPA Method 8021 or equivalent).
 - b. Aromatic volatile hydrocarbons (EPA Method 8260 or equivalent).
 - c. Total petroleum hydrocarbons (TPH) in the gasoline and diesel ranges (EPA Method 8015 or equivalent). Additional or alternative TPH analyses may be required if the suspected pollutants contain hydrocarbon fractions outside the range of these tests.
 - d. General or standard minerals analyses, including but not limited to, total dissolved solid (TDS), chloride, sulfate, nitrate, electrical conductivity (EC), pH and temperature.
 - e. Other analyses associated with specific types of waste streams.

C. Wastewater Treatment System and Characteristics

A description of the treatment facility is needed to assure that all waste streams are accounted for, and to aid in design of the monitoring program.

1. A detailed narrative description and schematic presentation of the proposed treatment system, including all processes.
2. Descriptions of the nature and concentration of any chemical additive used for treatment must be included. If the proposed treatment system uses activated carbon, submit an estimate of the breakthrough time for each carbon treatment unit. If the operations and maintenance included backflushing, or other required treatment for maintenance, then a full description of any discharges associated with these procedures must be included.
3. An estimate of the average, maximum and any variation in flows, as well as the design flows (hydraulic and treatment) for the treatment system. All necessary sizing calculations to accommodate the treatment volume must be included.
4. An operation plan describing general operations, maintenance procedures and process controls. Information on the provisions for stand-by power must be provided.
5. A description of the proposed performance-monitoring system utilized to determine that the treatment and disposal system is in compliance with Waste Discharge Requirements.
6. A spill plan including the preventive and contingency measures for controlling accidental discharges and for minimizing the effect of such an event.
7. Information required to assess protection of the facility from floods and frost.
8. A narrative and schematic description of the proposed extraction system. A discussion of the number, location and pumping rates of the extraction wells.

D. Disposal Analysis

The disposal analysis usually contains the following:

1. An evaluation of land disposal options for the purpose of screening feasible disposal alternatives. Land disposal alternatives to be evaluated include those listed on page 1 of this document. An evaluation of the environmental and financial constraints for each alternative must be provided. The proposed disposal system may consist of two or more disposal alternatives.
2. A narrative and schematic description of each of the proposed alternatives in the disposal system. Identification of whether disposal occurs on a seasonal basis. Information on the type and size of the disposal alternative(s). Provide design details, including flows, for each disposal alternative.
3. A water mass balance for each land disposal alternative must be provided to assure that sufficient disposal capacity is available at all times under all weather and operational conditions.
4. A discussion on the potential hydraulic and other impacts of the selected wastewater disposal alternative(s) on the migration and capture of the plume.
5. If treated water is to be used for irrigation, property owner, type and permeability of the soils, estimated quantities based on consumptive use, method of application, surface runoff controls and irrigation season must be identified. Institutional arrangements for control of land must also be identified.
6. If ponds are used for the disposal of the treated wastewater, information on the freeboard and structural integrity and estimates of infiltration and evaporation must be provided.

E. Site Hydrogeology and Characterization of Pollution

1. Depth to ground water, including seasonal variations.
2. Direction and gradient of ground water flow.
3. Locations of any known geologic features (e.g. aquitards, subterranean channels, faults, etc.) which could affect pollution migration.
4. Information on the locations, construction, design and analytical results from monitoring wells used to define the lateral and vertical extent of the plume and wells used to monitor the effectiveness of the cleanup.
5. Aquifer characteristics (e.g. hydraulic conductivity, porosity, etc.) determined from a sufficient number of locations by aquifer tests, soil borings, geophysics, etc.
6. Ground water modeling results including calculations and results for extraction system spacing, pumping/collection rates, injection system spacings and injection/infiltrations rates.
7. Location, construction and design details of extraction and injection systems (drilling methods, well designs, trench designs, etc.)